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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,459	12/26/2001	Sherwin S. Chen	BOIE-1-1037	5650

7590 05/16/2005

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EXAMINER
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SWARTHOUT, BRENT

ART UNIT	PAPER NUMBER
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2636

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/019,459

Applicant(s)

CHEN ET AL

Examiner

Brent A. Swarthout

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,5-7 and 9-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,5-7,11 and 12 is/are rejected.
- 7) ☒ Claim(s) 9-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

a. Claims 1, 5-7 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wichgers et al. in view of Frederick (146) and Lepere et al.

Wichgers discloses a flight display for aircraft for displaying pictorial representation of aircraft 36 in plane view and or aircraft 48 in profile view, including terrain elevations, except for specifically having width and lengths of specific size and an altitude reference scale, where the width of representation widens as distance from aircraft increases. Choosing to have displays represent specific range values would have been obvious, in order to only obtain terrain data relative to a flight path of interest.

Furthermore, Frederick teaches desirability of displaying an altitude scale adjacent a view of aircraft location with respect to terrain elevation (Fig.3).

Also, Lepere teaches desirability in a terrain warning system of using a representation of future flight path which widens as distance from aircraft increases, and which rotates in a direction of a turn (col. 11, lines 36-56; Figs. 4,11).

It would have been obvious to display altitude scale adjacent a display showing aircraft position with respect to terrain height, in order to

allow a pilot to know more specifically how high terrain was in case it was necessary to navigate around it. It would have further been obvious to use an aircraft path representation that widened with distance from an aircraft, and curved in the direction of a turn, in order that advance warnings could have been given if a pilot had to suddenly turn from a set course, and so that nuisance alerts could have been avoided where a pilot initiated a turn that would clearly avoid terrain from a previous path.

Regarding claims 6-7, choosing a specific range for displays would have been obvious, merely depending on the maneuvering capabilities of the aircraft.

Regarding claim 12, since Lepere teaches indicating curved flight path when an aircraft turns, choosing to base path on degree of bank would have been obvious to one of ordinary skill in the art, since bank angle determines degree of turn.

2. Claims 9-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
3. Regarding applicant's remarks filed with the response on 4-19-05, on page 8 it is stated that Wichgers does not show a representation to scale of a profile of highest elevations of a swath of terrain along the path area, a width of the swath widening as distance from the aircraft increases.

Firstly, Wichgers clearly shows a pictorial representation to scale of a profile of highest elevations of a swath of terrain along the path area, as shown in the lower portion of Fig. 3, the aircraft 1 heading along line 50 which will intersect highest terrain point along profile 52. It is clear that the "swath " along the path includes area width corresponding to the view shown in the upper portion of Fig. 3. However, as clearly stated in the rejection, Lepere teaches desirability of monitoring a swath width along a flight path for potential collision with terrain, the swath width (Figs. 4,11) increasing with distance away from the aircraft, thus providing a pilot with greater terrain data in case it was desired to deviate from course.

It would have been obvious to use a swath variation as suggested by Lepere in conjunction with a terrain avoidance system as disclosed by Wichgers and Frederick, in order that a pilot could have viewed greater portions of terrain ahead of an aircraft, thus providing greater safety by allowing avoidance of terrain to the side of a flight path, in case change in course was necessary.

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any


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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brent A Swarthout whose telephone number is 571-272-2979. The examiner can normally be reached on M-F from 6:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Hofsass, can be reached on 571-272-2981. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Brent A Swarthout  
Examiner  
Art Unit 2636

**BRENT A. SWARTHOUT  
PRIMARY EXAMINER**